

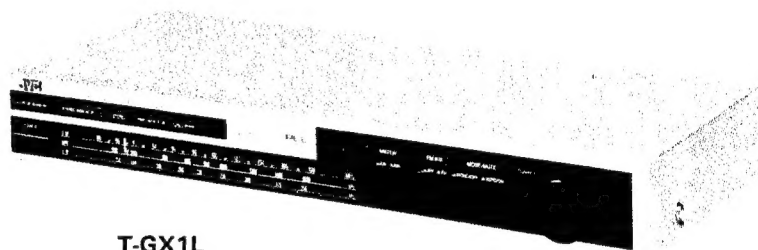
# JVC

## SERVICE MANUAL

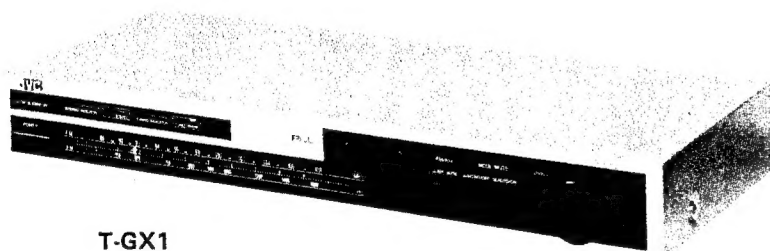
### FM/AM STEREO TUNER

MODEL **T-GX1/T-GX1B**

MODEL **T-GX1L/T-GX1LB**



T-GX1L



T-GX1

Model	Variation	
	Feature	Color
T-GX1	—	Silver
T-GX1L	with LW	Silver
T-GX1B	—	Black
T-GX1LB	with LW	Black

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# Safety Precaution

1. The design of this product contains special hardware, many circuits and components specially for safety purposes.

For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Service should be performed by qualified personnel only.

2. Alterations of the design or circuitry of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacturer of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the product have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the parts list of Service manual. Electrical components having such features are identified by shading on the schematics and by (  $\triangle$  ) on the parts list in Service manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement part shown in the parts list in Service manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and/or the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard.

When service is required, the original lead routing and dress should be observed, and they should be confirmed to be returned to normal, after re-assembling.

5. Leakage current check

(Safety for electrical shock hazard)

After re-assembling the product, always perform an isolation check on the exposed metal parts of the Products (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.

Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal part of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5 mA AC (r.m.s.).
- Alternate check method  
Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1500  $\Omega$  10 W resistor paralleled by a 0.15  $\mu$ F AC-type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter.  
Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).

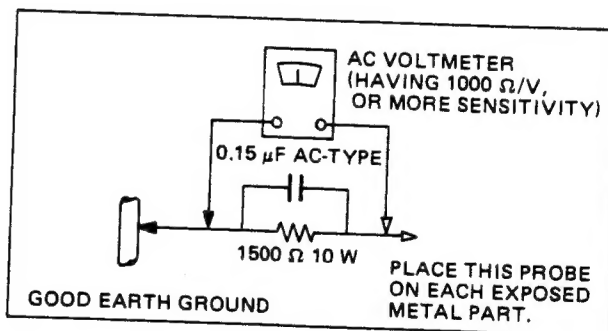
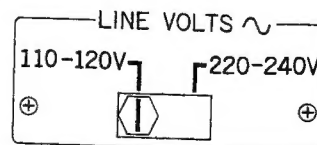


Fig. 1

## CHECKING YOUR LINE VOLTAGE (For U.S. Military Market and Other Countries)

Before inserting the power plug, please check this setting to see that it corresponds with the line voltage in your area. If it doesn't, be sure to adjust the voltage selector switch to the proper setting before operating this equipment. The voltage selector switch is located on the rear panel.

**CAUTION:** Before selecting the "Voltage selector switch" to proper voltage, disconnect the power plug.



# 1. Specifications

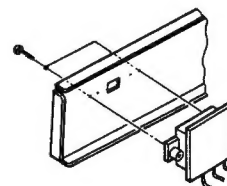
FM TUNER SECTION		'78 IHF	DIN	AM TUNER SECTION	MW	LW
Tuning range	:	88–108 MHz	87.5–108.0 MHz	Tuning range	:	525 kHz – 150 kHz – 1605 kHz
Usable sensitivity (IHF)	:	11.2 dBf (1.0 $\mu$ V/75 ohms)	—	Usable sensitivity (Loop antenna)	:	350 $\mu$ V/m 350 kHz 600 $\mu$ V/m
26 dB quieting sensitivity	:	—	1.5 $\mu$ V/75 ohms	Signal-to-Noise ratio	:	50 dB 45 dB
50 dB quieting sensitivity	:	—	—	DIMENSIONS	:	61(H) x 435(W) x 224(D) mm (2-7/16" x 17-3/16" x 8-7/8")
Mono	:	17.3 dBf, (2.0 $\mu$ V/75 ohms)	—	WEIGHT	:	1.8 kg (4.0 lbs)
Stereo	:	38.3 dBf, (22.5 $\mu$ V/75 ohms)	—	<i>Design and specifications are subject to change without notice.</i>		
46 dB quieting sensitivity	:	—	35 $\mu$ V/75 ohms			
Stereo	:	—	—			
Signal-to-Noise ratio	:	—	—			
Mono	:	76 dB	70 dB			
Stereo	:	70 dB	64 dB			
Total harmonic distortion	:	—	—			
Mono	:	0.2 %	0.15 %			
Stereo	:	0.3 %	0.4 %			
Selectivity	:	60 dB $\pm$ 400 kHz	55 dB $\pm$ 300 kHz			
Capture ratio	:	1.5 dB	1.0 dB			
Image rejection	:	55 dB at 98 MHz	—			
Frequency response	:	30 Hz – 15 kHz (+0.3 dB, –5.0 dB)	—			
Stereo separation	:	40 dB at 1 kHz	37 dB at 1 kHz			
Output level	:	600 mV	600 mV			
Output impedance	:	3.3 k ohms	3.3 k ohms			

## POWER SPECIFICATIONS

Areas	Line Voltage & Frequency	Power Consumption	
		Power ON	Standby
U.S.A. & Canada	AC 120 V, 60 Hz	5 watts	1 watt
Continental Europe	AC 220 V~, 50 Hz	5 watts	1 watt
U.K. & Australia	AC 240 V~, 50 Hz	5 watts	1 watt
Other areas	AC 110–120/220–240 V~, Selectable, 50/60 Hz	5 watts	1 watt

### Warning Hints at Fitting the Voltage Selector

Take great care not to fit the voltage selector in the reverse direction. If the voltage selector is fitted contrariwise, the lines of 110-120 V and 220-240 V are set opposite and it causes a serious trouble. When fitting the voltage selector, set it as its wires are under the P.C. board (see the figure on the right).



## 2. Dial Stringing Procedure

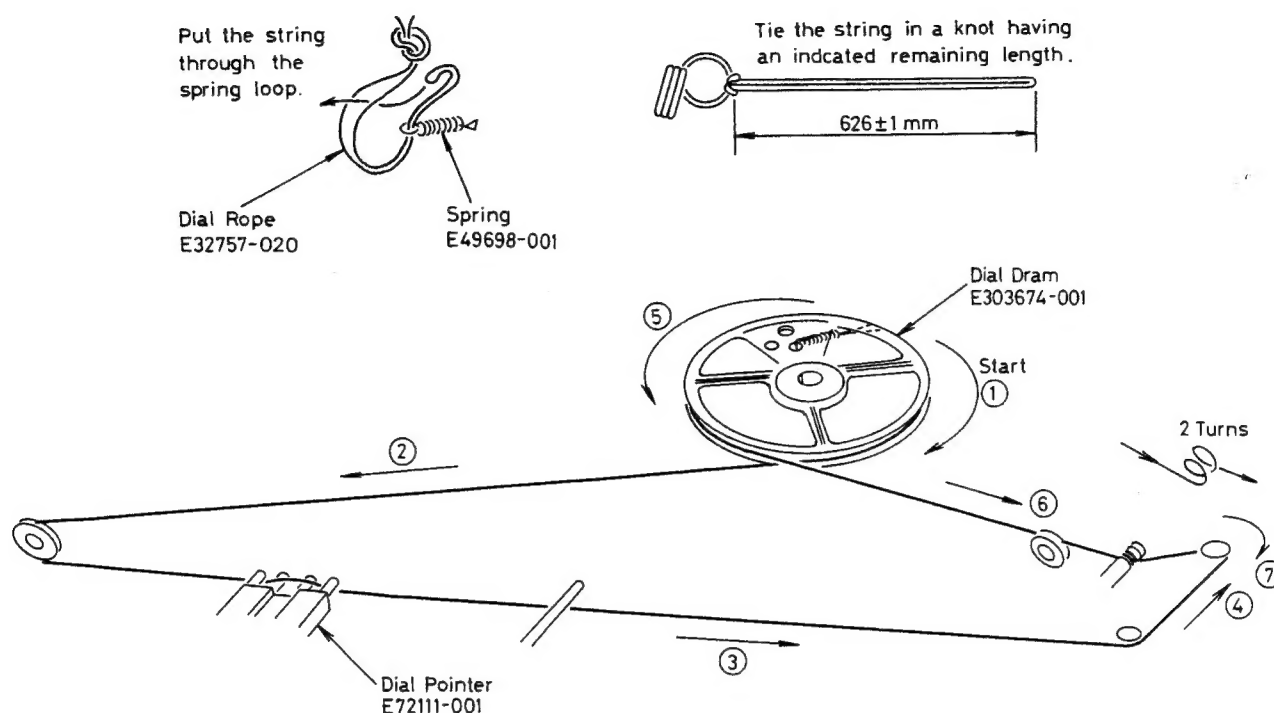


Fig. 2

## 3. Removal Procedures

### 3-(1) Metal cover section

1. Loosen and remove the five screws (two on the both sides and three on the rear) securing the metal cover.
2. Remove the metal cover lifting it up by the back.

### 3-(2) Front panel section

1. Loosen a screw on the left side of the front panel and two screws securing the panel and the board to remove them.
2. Loosen the five screws securing the panel and the chassis base together on the bottom of the set.  
**Note:** Make sure not to loosen the three screws on the front panel in this procedure.
3. Move the dial pointer to the most rightward (high frequency) position.
4. Take off the tuning knob and remove the nut fixing the tuning shaft.

5. Take off the dial pointer from the front panel.  
(Loosen a plastic rivet on the rail of the dial pointer.)
6. Take off the tuning LED P.C.B. (Loosen a plastic rivet) from the front panel.

### 3-(3) P.C. board check

1. Remove the metal cover. (Refer to the item 3-(1) above.)
2. Loosen and remove the fourteen screws securing the chassis base on the bottom.
3. Remove the three screws fixing the board.
4. Remove the clamp securing the power cord to the chassis base.

## 4. Alignment Procedures

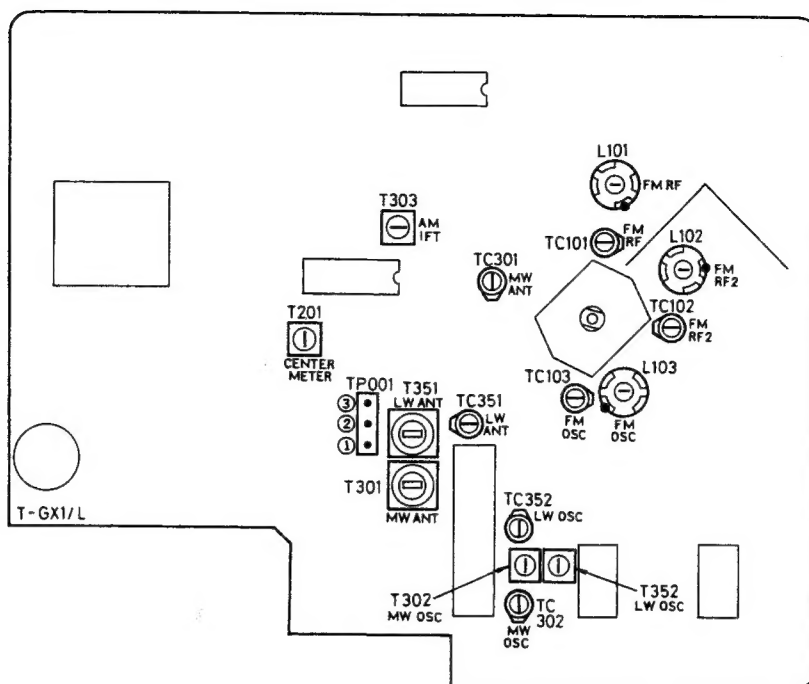


Fig. 3

### 4-(1) FM section

#### Low Frequency

1. Connect an RF generator, 1 kHz modulation and 75 kHz deviation, to the antenna terminals on the rear panel through a dummy antenna.
2. Set the RF generator to 88 kHz, a modulation of 1 kHz and a deviation of 75 kHz, to provide an input of  $2 \mu\text{V}$ .
3. Connect a VTVM and oscilloscope to Signal Cord.
4. Set the dial pointer to 88 MHz.
5. Adjust the three coils L103, L102 and L101 in the tuning gang to maximize the output.

#### High Frequency

6. Set the RF generator to 108 MHz, a modulation of 1 kHz and a deviation of 75 kHz, to provide an input of  $2 \mu\text{V}$ .
7. Set the dial pointer to 108 MHz.
8. Adjust the FM trimmers TC103, TC102 and TC101 in the tuning gang to maximize the output.
9. Repeat these high and low frequencies adjustment alternately until maximum sensitivity is obtained.

**Note:** After adjustment, confirm that the band cover is as follows: (for West Germany only)

FM: Low-end 87.5 MHz — 300 kHz  
High-end 108.0 MHz + 500 kHz

#### Discriminator, Center Meter

1. Connect an oscilloscope, distortion meter and AC VTVM to Signal Cord.
2. Connect a DC VTVM to TP001 (①—②).
3. Tune to frequency where there is no broadcasting.
4. Adjust the core of T201 so that the DC VTVM indicates "0" (zero).

### 4-(2) MW (LW) section

#### MW (LW) Tracking and Sensitivity

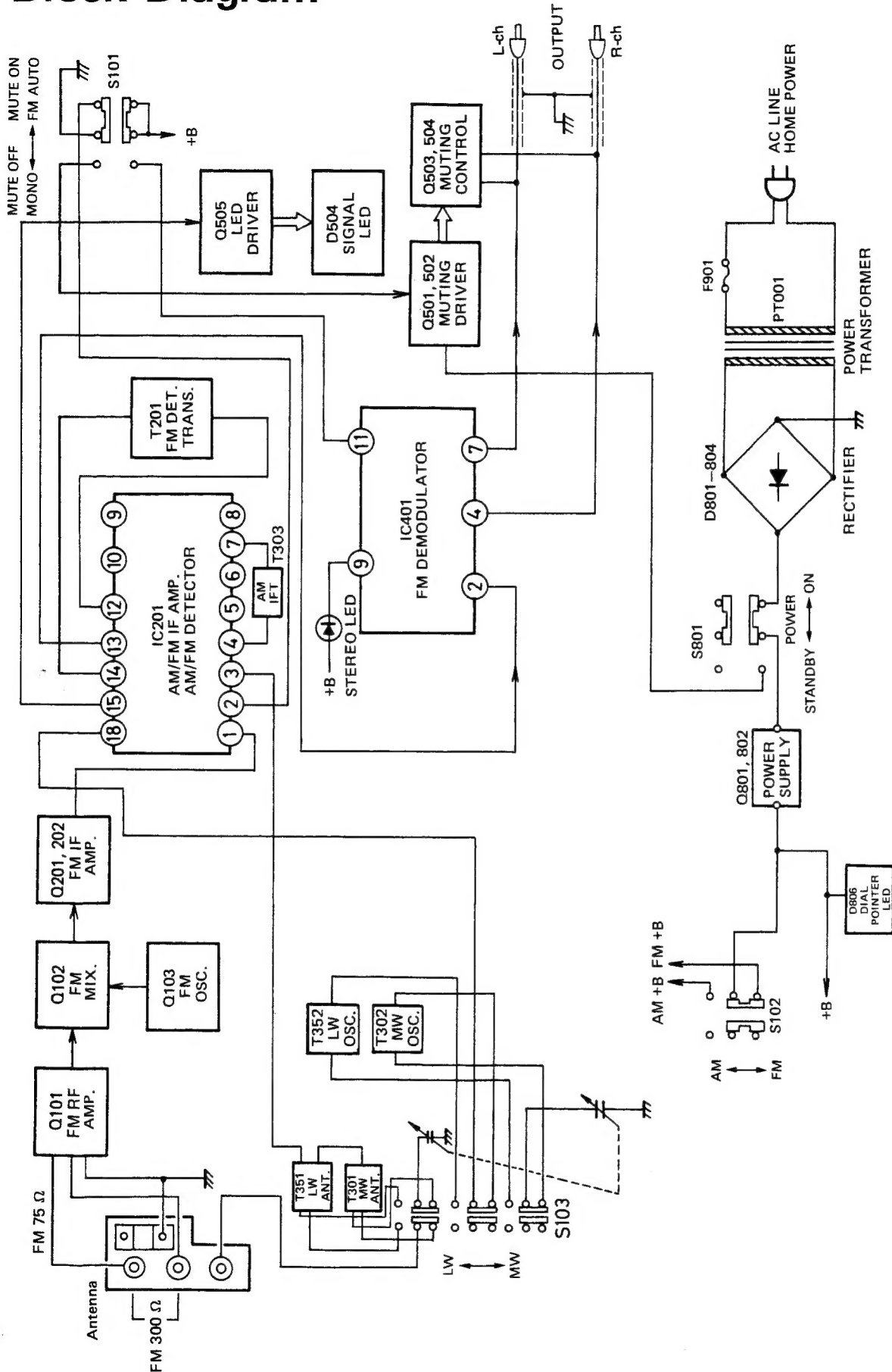
##### Low Frequency

1. Connect the RF generator to the antenna terminal on the rear panel, set this to 600 kHz (160 kHz) with 30% modulation at 400 Hz.
2. Connect an AC VTVM and an oscilloscope to Signal Cord.
3. Set the dial pointer to 60 kHz (160 kHz).
4. Adjust OSC transformer T302 (T352) and ANT coil T301 (T351) in the tuning gang to maximize the output.

##### High Frequency

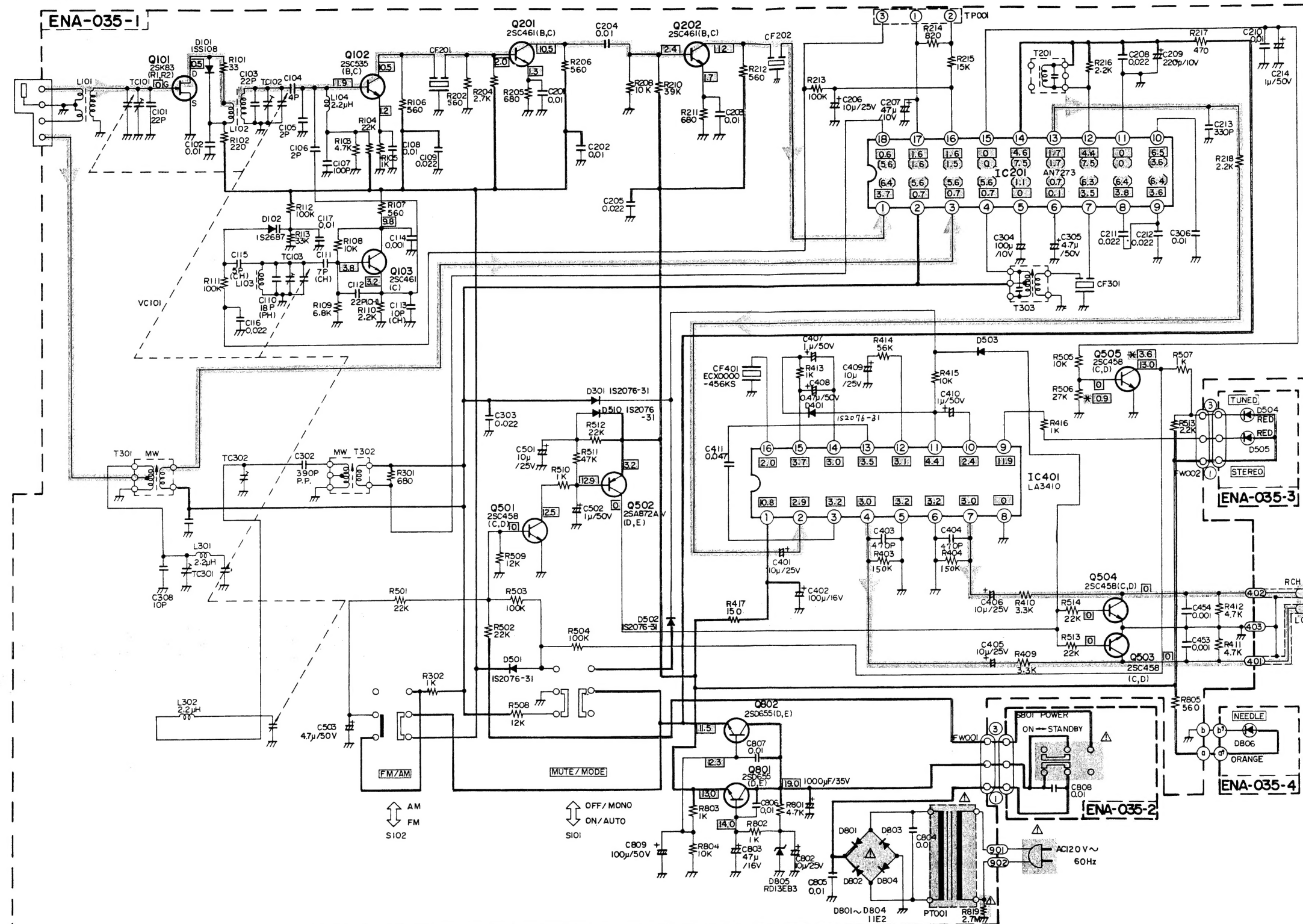
5. Set the RF generator to 1400 kHz (350 kHz) with 30% modulation at 400 Hz.
6. Set the dial pointer to 1400 kHz (350 kHz).
7. Adjust the trimmers TC302 (TC352) and TC301 (TC351) in the tuning gang so that the output signal is maximized.
8. Repeat these high and low frequencies adjustment procedures alternately until maximum sensitivity is obtained.

## 5. Block Diagram



## 6. T-GX1/T-GX1L Schematic Diagram

### 6-(1) T-GX1 Tuner Section

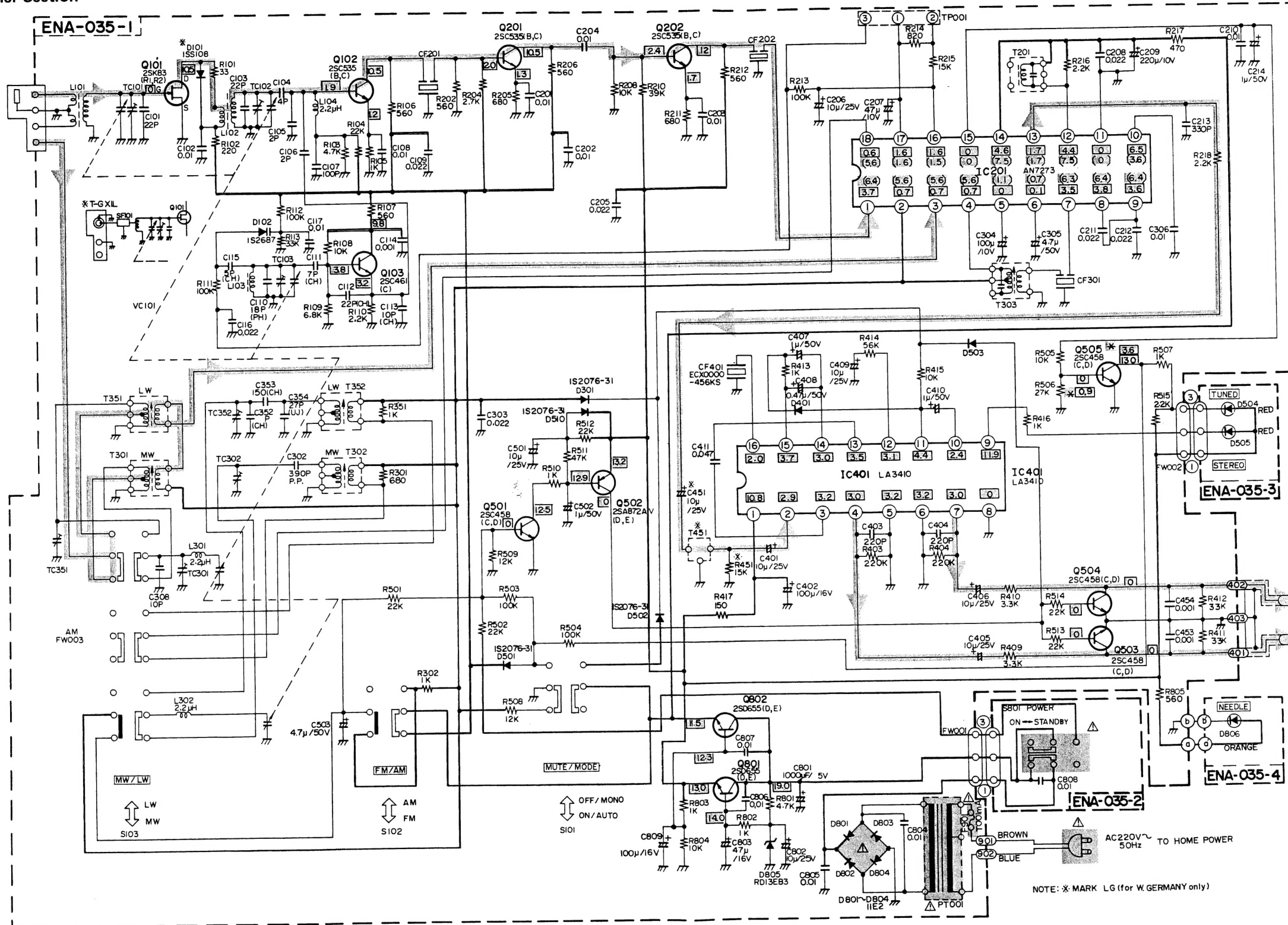


#### Notes:




1. shows DC voltage to the chassis with no signal input.
2. indicates positive B power supply.
3. indicates signal path.
4. When replacing the parts in the darkened area ( ) and those marked with , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.  
The design and contents are subject to change without notice.





### 6-(2) T-GX1L Tuner Section



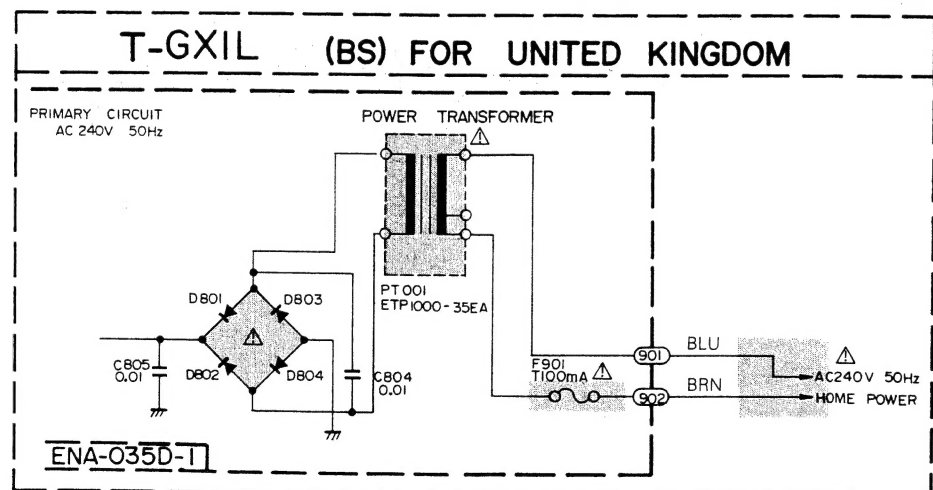
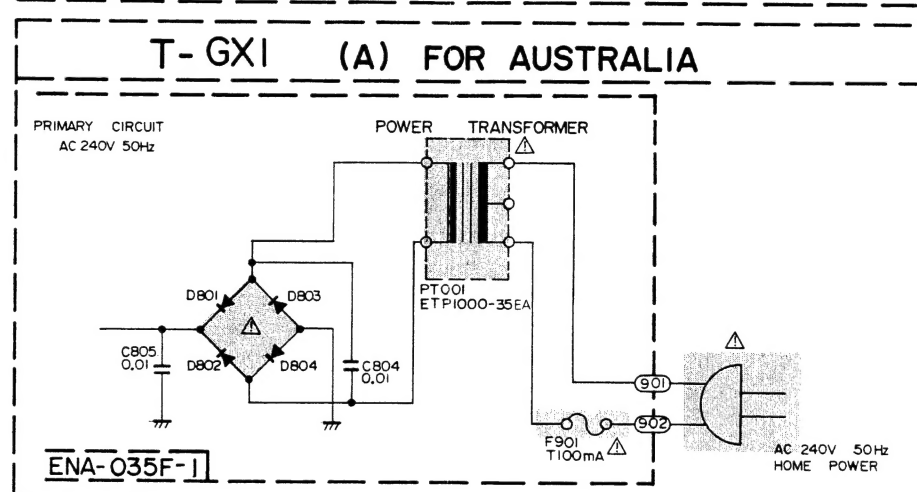
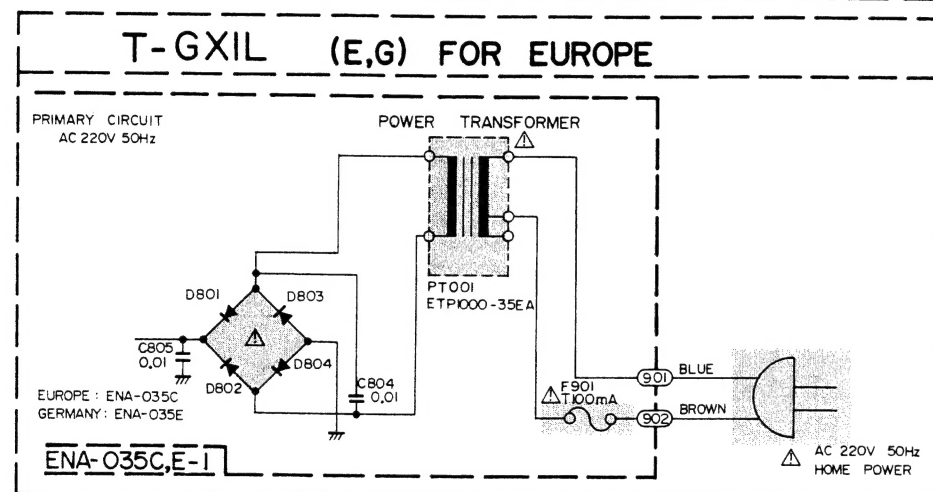
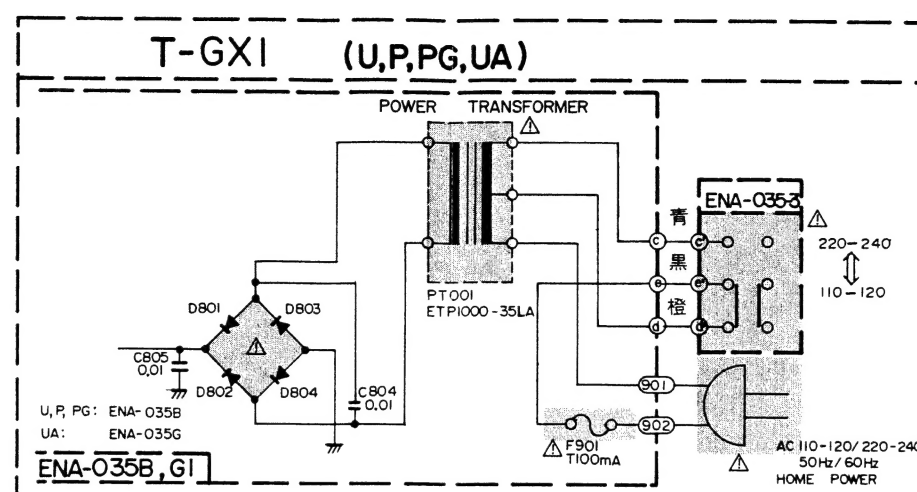
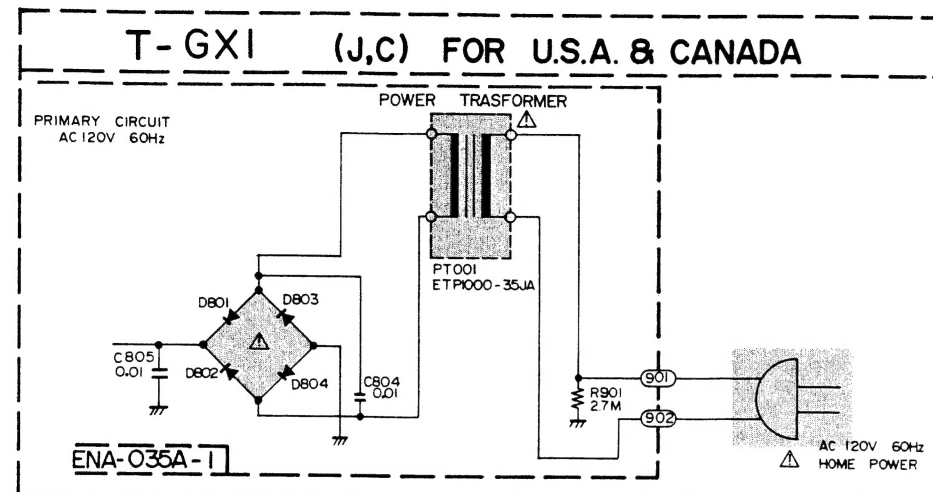
**Notes:**

- Notes:
1.  shows DC voltage to the chassis with no signal input.
  2.  indicates positive B power supply.
  3.  indicates signal path.

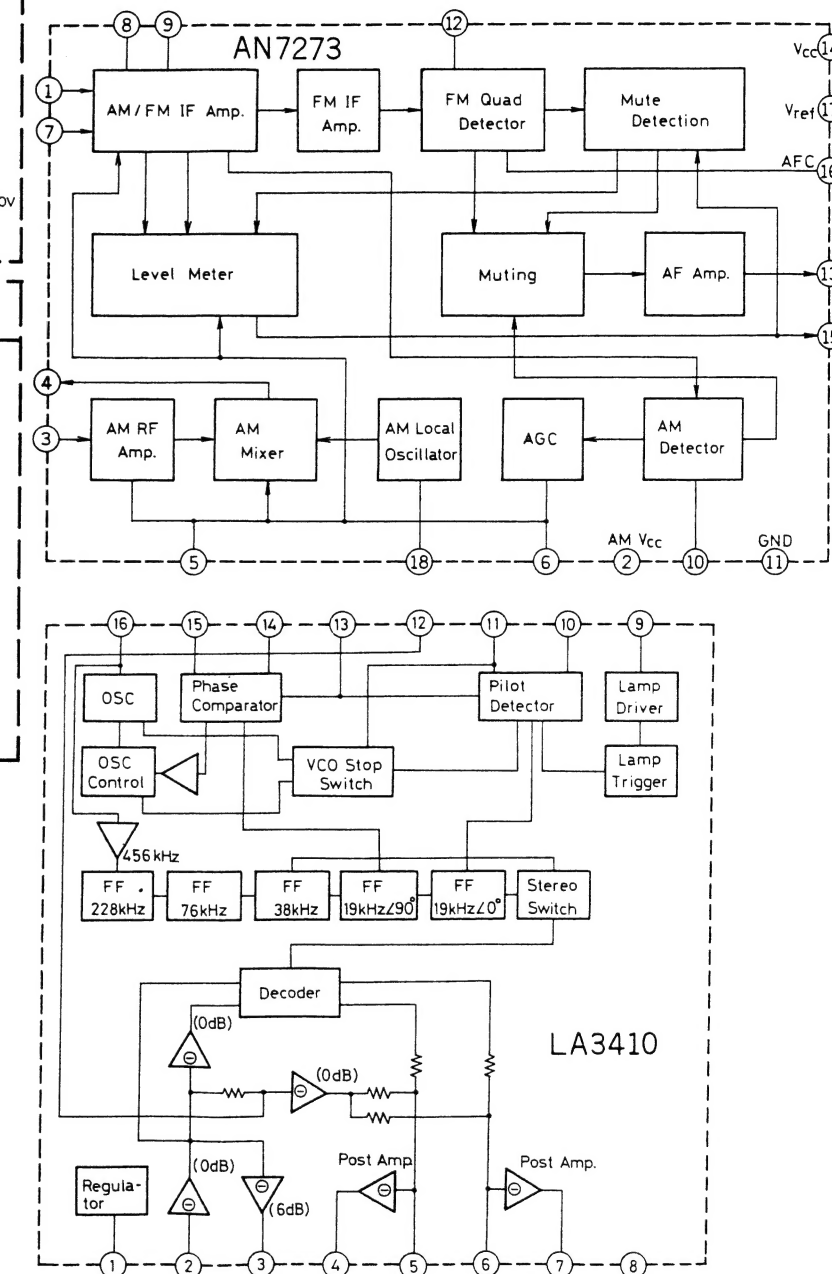
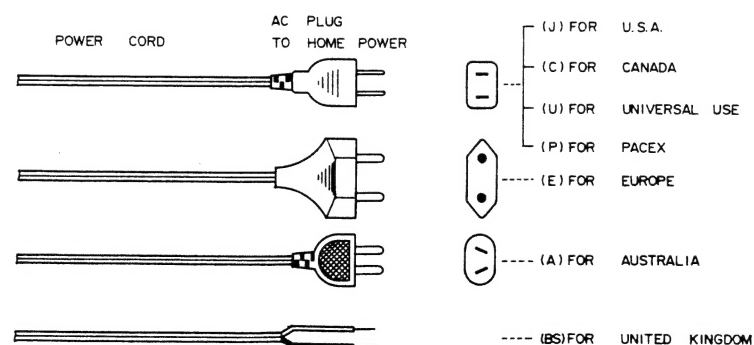
4. When replacing the parts in the darkened area (  ) and those marked with  , be sure to use the designated parts to ensure safety.
5. This is the standard circuit diagram.  
The design and contents are subject to change without notice.



6-(3) T-GX1/T-GX1L Power Supply Section



NOTE: T-GX1 U, P, PG, UA  
VOLTAGE SELECTOR (MOUNTED ON THE REAR PANEL) MUST BE ADJUSTED FOR THE PROPER VOLTAGE OF HOME POWER



Notes:

- When replacing the parts in the darkened area ( ) and those marked with  $\Delta$ , be sure to use the designated parts to ensure safety.
- This is the standard circuit diagram. The design and contents are subject to change without notice.

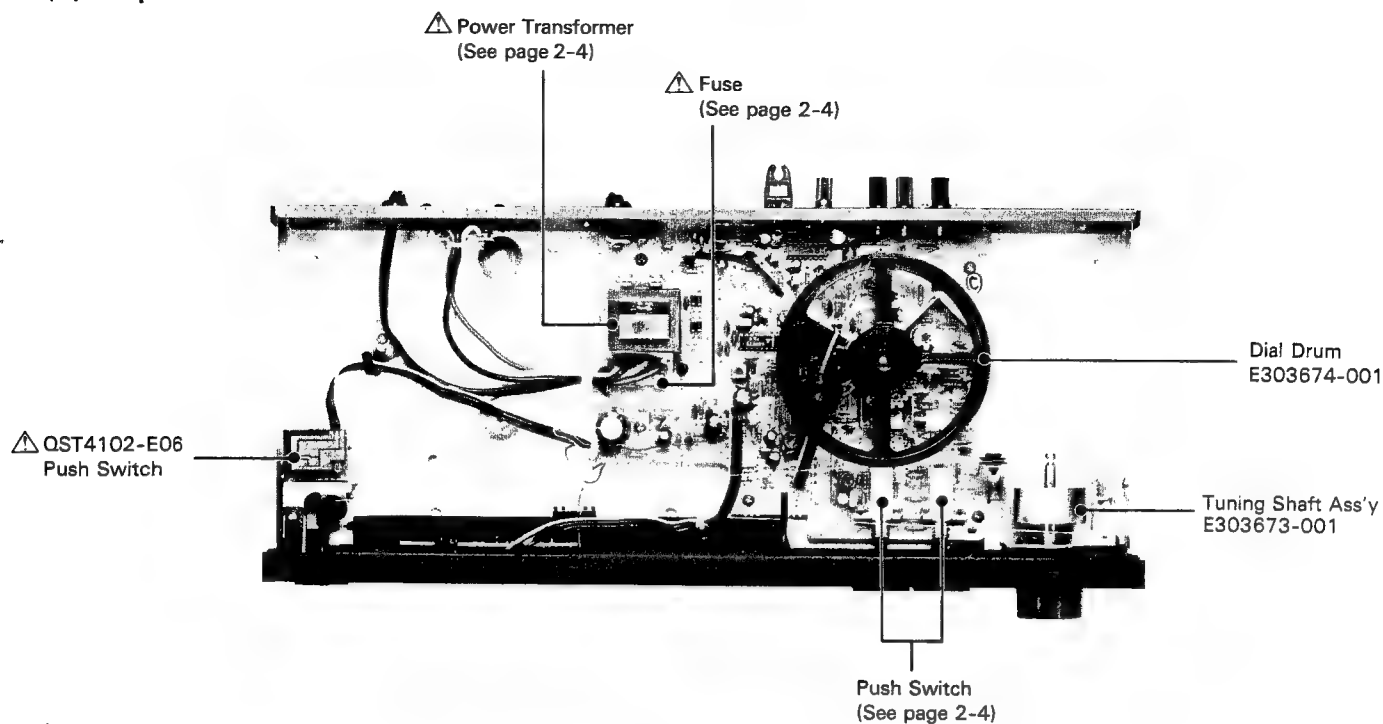
# PARTS LIST

## Contents

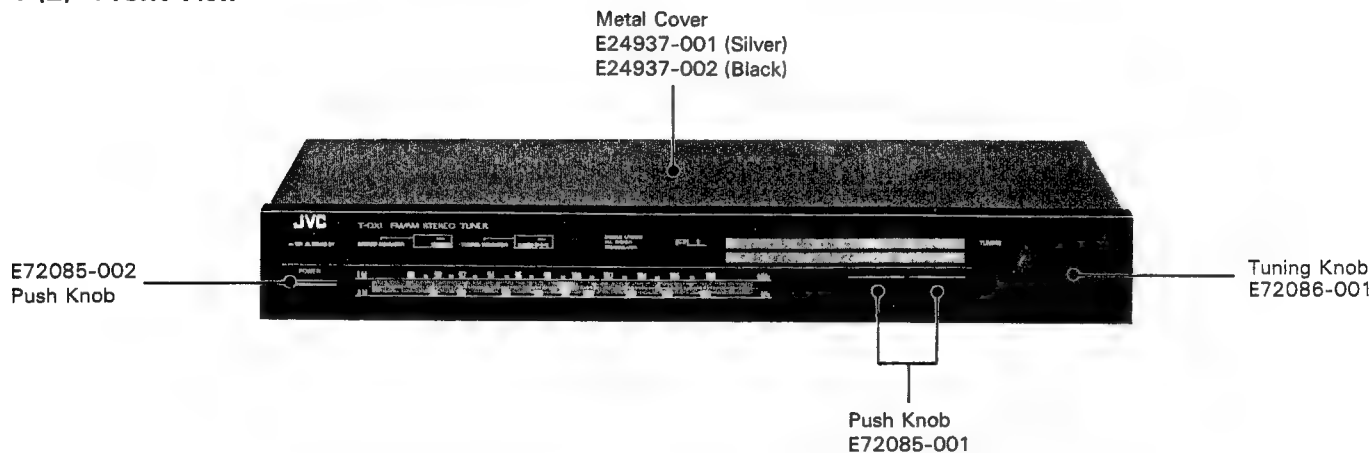
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# 1. Main Parts Locations

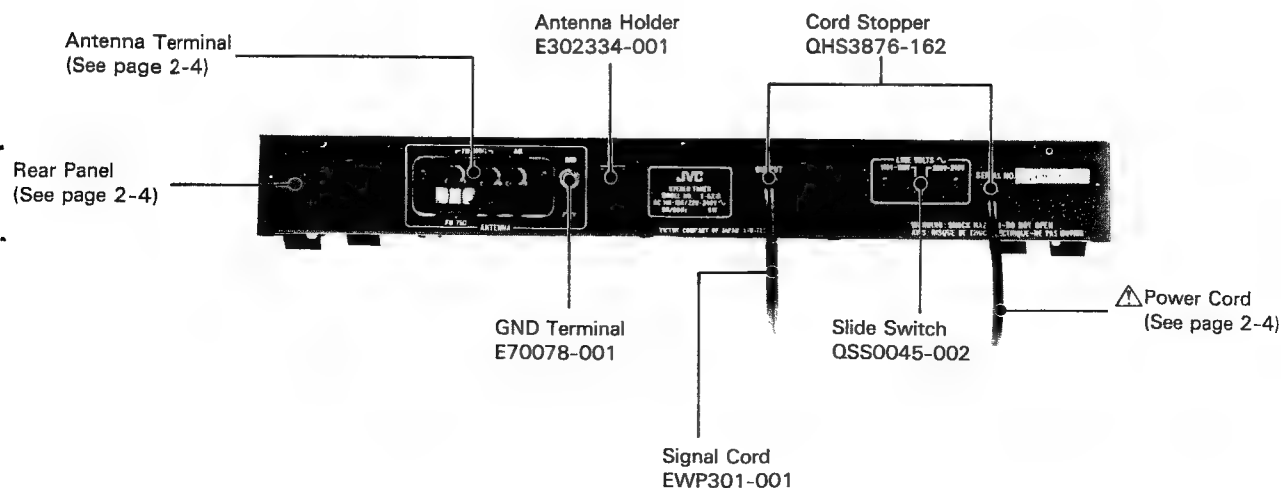
## 1-(1) Top View



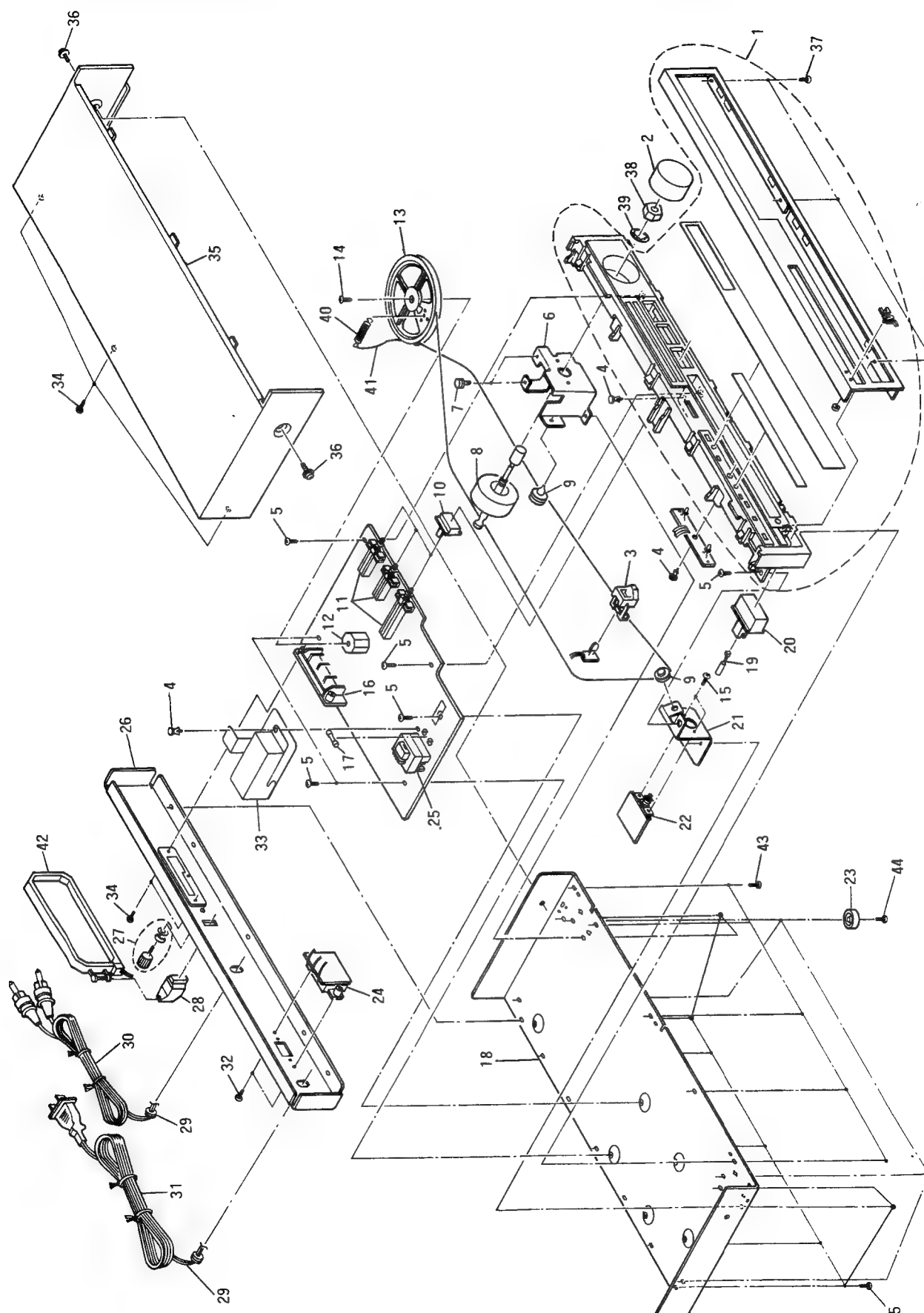
## 1-(2) Front View



## 1-(3) Rear View



## 2. Exploded View and Part Numbers



Note: Those items shown on the disassembly diagram without indicated of reference Nos. are supplied as assembly parts.

△	No.	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-TGX1E EFP-TG1BE EFP-TGX1LE EFP-TGX1BLE	Front Panel Ass'y Front Panel Ass'y Front Panel Ass'y Front Panel Ass'y	1 1 1 1	Silver Black Silver Black	J,C,P,PG,A,UA,U J,C,P,PG,A,UA,U LG,LE,LES,LBS LG,LE,LES,LBS
	2	E72086-001	Tuning Knob	1		
	3	E72111-001	Needle Ass'y	1		
	4	E48729-008	Plastic Rivet	3		
	5	SBSB3008N	Tapping Screw	15		
	6	E303723-001	Roller Bracket	1		
	7	E66082-001	Roller Ass'y	2		
	8	E303673-001	Tuning Shaft Ass'y	1		
	9	E66082-003	Roller Ass'y	2		
	10	E72085-001	Push Knob	2		
	11	QST42A1-E01 QST43A1-E03	Push Switch Push Switch	1 1		J,C,P,PG,A,UA,U LG,LE,LES,LBS
	12	ENZ1005-004	Variable Capacitor	1	Tuning	
	13	E303674-001	Dial Drum	1		
	14	SPSP2606Z	Screw	1		
	15	E65119-001	Special Screw	2		
	16	E03572-016	Antenna Terminal	1		J,C,P,PG,A,UA,LE,LES,LBS
△	17	EMB91YV-201A QMF51A2-R10S	Antenna Terminal Fuse	1 1		LG A,UA,P,PG,E,LG,U
△	18	QMF51E2-R10SBS	Fuse	1		LBS
	19	E11085-001	Chassis Base	1		
	20	E66226-001	Push Shaft	1	Power	
	21	E72085-002	Push Knob	1	Power	
	22	E72087-001	Bracket	1	Power	
	23	QST4102-E06	Push Switch	1	Power	
	24	E47227-023	Foot	4		
	25	QSS0045-002	Slide Switch	1	Voltage Selector	P,PG,UA,U
△	26	ETP1000-35EA ETP1000-35EABS ETP1000-35JA ETP1000-35LA	Power Transformer Power Transformer Power Transformer Power Transformer	1 1 1 1		A,LE,LES,LG LBS J,C. UA,P,PG,U
△	27	E24935-001	Rear Panel	1	Silver	J.C
		E24935-002	Rear Panel	1	Silver	P,PG,UA,U
		E24935-003	Rear Panel	1	Silver	A,LE,LBS
		E24935-004	Rear Panel	1	Silver	LG
		E24935-005	Rear Panel	1	Silver	LES
		E24935-006	Rear Panel	1	Black	J,C
		E24935-007	Rear Panel	1	Black	P,PG,UA,U
		E24935-008	Rear Panel	1	Black	A,LE,LBS
		E24935-009	Rear Panel	1	Black	LG
		E24935-010	Rear Panel	1	Black	LES
	28	E70078-001	GND. Terminal	1		
△	29	E302334-001	Antenna Holder	1		
△	30	QHS3876-162	Cord Stopper	2		
△	31	EW301-001	Signal Cord	1		
△	32	QMP1200-200	Power Cord	1		J,C A
△		QMP2560-244	Power Cord	1		
△		QMP3900-200	Power Cord	1		LE,LG,LES
△		QMP7600-250	Power Cord	1		P,PG,UA,U
△		QMP9017-008BS	Power Cord	1		LBS
	33	SES2608N	Tapping Screw	2	Silver	
	34	SBSB2608M	Tapping Screw	2	Black	
	35	E72304-001	Protect Cover	1		
	36	SBSF3008M	Screw	5	Silver	
	37	SBSF3008Z	Screw	5	Black	
	38	E24937-001	Metal Cover	1	Silver	
	39	E24937-002	Metal Cover	1	Black	
	40	E61660-001	Special Screw	2	Silver	
	41	E61660-004	Special Screw	2	Black	
	42	SBSF3008N	Tapping Screw	3	Silver	
	43	SBSF3008M	Tapping Screw	3	Black	
	44	WAS9000	Washer	1		
	45	E43323-002	Nut	1		
	46	E49698-001	Spring	1		
	47	E32757-020	Dial Iope	1		
	48	See page 2-10	Loop Antenna	1		
	49	SBSF3008M	Tapping Screw	5	Silver	
	50	SBSF3008Z	Tapping Screw	5	Black	
	51	SBSB3010N	Tapping Screw	4		

△ Safety Parts

The Marks by Designated Area	
J . . . . . U.S.A.	LG . . . . . West Germany
C . . . . . Canada	A . . . . . Australia
P, PG . . . U.S. Military Market	LBS . . . . . U. K.
LE . . . . . Europe	UA . . . . . Rep. of South Africa
LES . . . . Spain	U . . . . . Other Countries

3. Printed Circuit Board Ass'y and Parts List

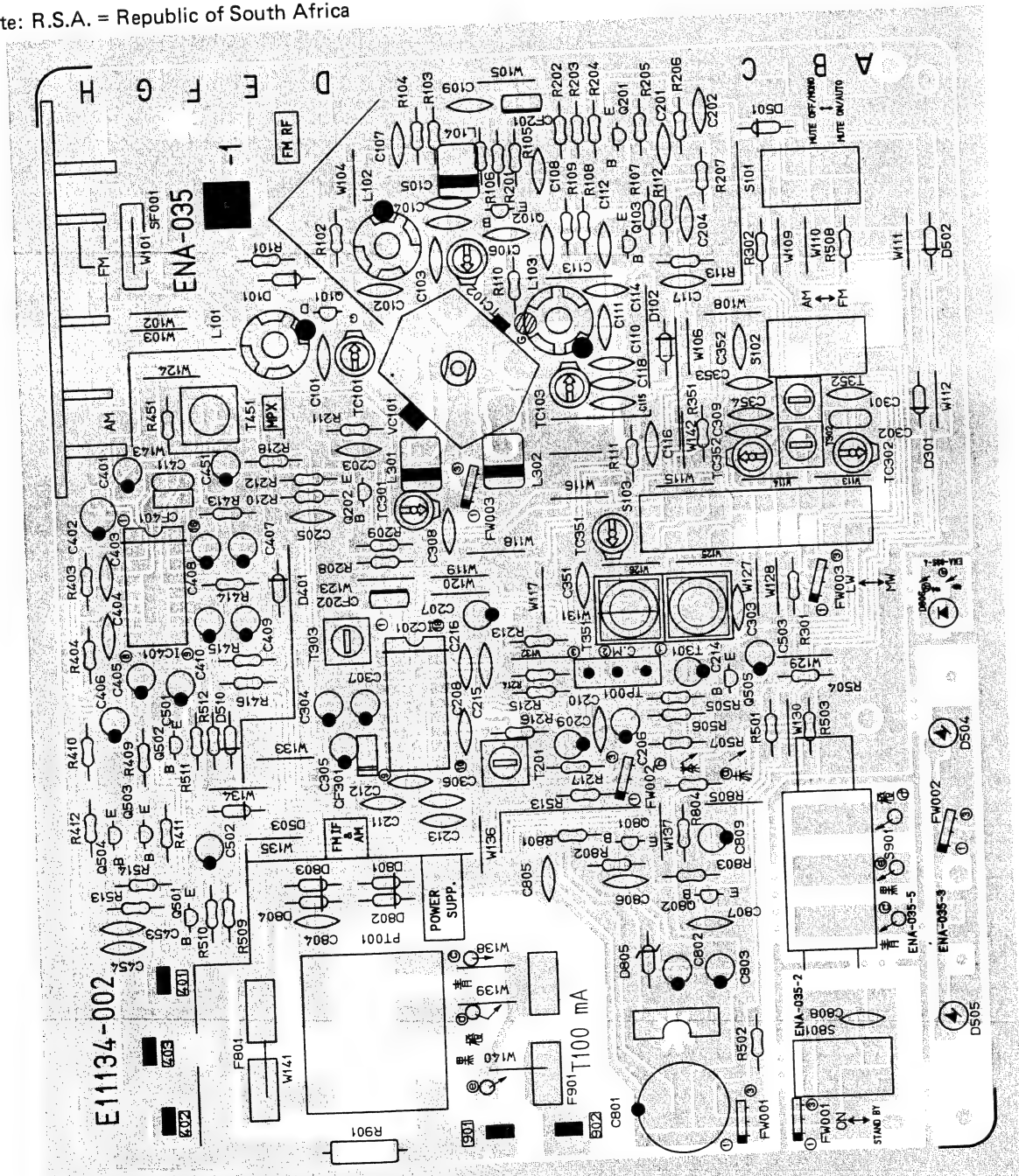
3-(1) ENA-035 Tuner P.C. Board Ass'y

Note: ENA-035 varies according to the areas employed. See note (1) when placing an order.

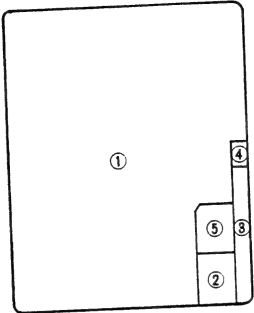
Note (1)

P.C. Board Ass'y	Designated Areas
ENA-035	U.S.A., Canada
ENA-035	U.S. Military Market, Other countries
ENA-035	Europe, Spain
ENA-035	U.K.
ENA-035	West Germany
ENA-035	Australia
ENA-035	R.S.A.

Note: R.S.A. = Republic of South Africa



Each Individual P.C. Board Location



- ① ENH-035-1 Tuner Power Supply P.C. Board Ass'y
- ② ENH-035-2 Stand by Switch P.C. Board Ass'y
- ③ ENH-035-3 Signal & Stereo Indicator P.C. Board Ass'y
- ④ ENH-035-4 Dial Pointer L.E.D. P.C. Board Ass'y
- ⑤ ENH-035-5 Voltage Selector P.C. Board Ass'y

Transistors

Item	Part Number	Description	Maker	Areas
Q101	2SK83(R1, R2)	F.E.T.	Matsushita	
Q102	2SC535(B,C)	Silicon	Hitachi	
Q103	2SC461(B,C)	Silicon	Hitachi	
Q201	2SC535(B,C)	Silicon	Hitachi	
Q202	2SC535(B,C)	Silicon	Hitachi	
Q501	2SC458(C,D)	Silicon	Hitachi	
Q502	2SA872AV(D,E)	Silicon	Hitachi	
Q503	2SC458(C,D)	Silicon	Hitachi	
Q504	2SC458(C,D)	Silicon	Hitachi	
Q505	2SC458(C,D)	Silicon	Hitachi	
Q801	2SD655(D,E)	Silicon		
Q802	2SD655(D,E)	Silicon		

ICs

Item	Part Number	Description	Maker	Areas
IC201	AN7273	I.C.	Matsushita	
IC401	LA3410	I.C.	Sanyo	

Diodes

Item	Part Number	Description	Maker	Areas
D101	1SS108	Silicon	Hitachi	E
D102	1S2687	Silicon	Dainichi	
D301	1S2076-31	Silicon	Hitachi	
D401	1S2076-31	Silicon	Hitachi	
D501	1S2076-31	Silicon	Hitachi	
D502	1S2076-31	Silicon	Hitachi	
D503	1S2076-31	Silicon	Hitachi	
D504	SLR-55VC50F	L.E.D.	JRC	
D505	SLR-55VC50F	L.E.D.	JRC	
D510	1S2076-31	Silicon	Hitachi	
D801	11E2	Silicon	Nippon Inter	
D802	11E2	Silicon	NEC	
D803	11E2	Silicon	Nippon Inter	
D804	RD13EB3	Silicon	Nippon Inter	
D806	SLB-26DU50F	L.E.D.	JRC	

Coils

Item	Part Number	Description	Areas
L101	EQR2306-013	RF Coil	A
L101	EQR2306-013	RF Coil	B
L101	EQR2306-013	RF Coil	C
L101	EQR2306-013	RF Coil	DBS
L101	EQR2306-013	RF Coil	F

△ Safety Parts

Item	Part Number	Description	Areas
L101	EQR2306-013	RF Coil	G
L101	EQR2306-017	RF Coil	E
L102	EQR2306-003	RF Coil	A
L103	EQR2406-001	RF Coil	B
L103	EQR2406-001	RF Coil	C
L103	EQR2406-001	RF Coil	DBS
L103	EQR2406-001	RF Coil	E
L103	EQR2406-001	RF Coil	F
L103	EQR2406-005	RF Coil	G
L104	EQL3001-2R2KY	Inductor	
L301	EQL3001-2R2KY	Inductor	
L302	EQL3001-2R2KY	Inductor	
T201	EQT2140-010	I.F.T.	
T301	EQR1111-009	RF Coil	
T302	EQR1207-007	RF Coil	
T303	EQT1021-001	I.F.T.	C
T351	EQR1111-006	RF Coil	DBS
T351	EQR1111-006	RF Coil	E
T351	EQR1111-006	RF Coil	
T352	EQR1307-004	LW OSC Coil	C
T352	EQR1307-004	LW OSC Coil	DBS
T352	EQR1307-004	LW OSC Coil	E
T451	EQF0102-001	Filter	E
SF101	EQF0201-004	Filter	
CF201	ECB2118-001	Ceramic Filter	C
CF201	ECB2118-001	Ceramic Filter	DBS
CF201	ECB2118-001	Ceramic Filter	E
CF201	ECB2123-001	Ceramic Filter	A
CF201	ECB2123-001	Ceramic Filter	B
CF201	ECB2123-001	Ceramic Filter	
CF201	ECB2123-001	Ceramic Filter	F
CF201	ECB2123-001	Ceramic Filter	G
CF201	ECB2123-001	Ceramic Filter	
CF202	ECB2118-001	Ceramic Filter	C
CF202	ECB2118-001	Ceramic Filter	DBS
CF202	ECB2118-001	Ceramic Filter	E
CF202	ECB2118-001	Ceramic Filter	
CF202	ECB2123-001	Ceramic Filter	A
CF202	ECB2123-001	Ceramic Filter	B
CF202	ECB2123-001	Ceramic Filter	F
CF202	ECB2123-001	Ceramic Filter	G
CF301	ECB1510-001	Ceramic Filter	
CF401	ECX0000-456KS	Resonator	



Capacitors

Item	Part Number	Description			Areas
C101	QCS31HJ-220	22 pF	50 V	Ceramic	
C102	QCF31HP-103	0.01 μF	50 V	Ceramic	
C103	QCS31HJ-220	22 pF	50 V	Ceramic	
C104	QCS31HJ-4R0	4R pF	50 V	Ceramic	
C106	QCS31HJ-2R0	2R pF	50 V	Ceramic	
C107	QCS31HJ-101	100 pF	50 V	Ceramic	G
C108	QCF31HP-103	0.01 μF	50 V	Ceramic	
C109	QCF31HP-223	0.022 μF	50 V	Ceramic	
C110	QCT25PH-150	15 pF	50 V	Ceramic	
C110	QCT25PH-180	18 pF	50 V	Ceramic	
C110	QCT25PH-180	18 pF	50 V	Ceramic	B
C110	QCT25PH-180	18 pF	50 V	Ceramic	C
C110	QCT25PH-180	18 pF	50 V	Ceramic	DBS
C110	QCT25PH-180	18 pF	50 V	Ceramic	E
C110	QCT25PH-180	18 pF	50 V	Ceramic	F
C111	QCT25CH-7R0	7R pF	50 V	Ceramic	
C112	QCT25CH-220	22 pF	50 V	Ceramic	
C113	QCT25CH-100	10 pF	50 V	Ceramic	
C114	QCF31HP-102	1000 pF	50 V	Ceramic	
C115	QCT25CH-5R0	5R pF	50 V	Ceramic	
C116	QCF31HP-103	0.01 μF	50 V	Ceramic	
C117	QCF31HP-103	0.01 μF	50 V	Ceramic	
C201	QCF31HP-103	0.01 μF	50 V	Ceramic	
C202	QCF31HP-103	0.01 μF	50 V	Ceramic	
C203	QCF31HP-103	0.01 μF	50 V	Ceramic	
C204	QCF31HP-103	0.01 μF	50 V	Ceramic	
C205	QCF31HP-223	0.022 μF	50 V	Ceramic	
C206	QET61EM-106	10 μF	25 V	Electrolytic	
C207	QET61AM-476	47 μF	10 V	Electrolytic	
C208	QCF31HP-223	0.022 μF	50 V	Ceramic	
C209	QET61AM-227	220 μF	10 V	Electrolytic	
C210	QCF31HP-103	0.01 μF	50 V	Ceramic	
C211	QCF31HP-223	0.022 μF	50 V	Ceramic	
C212	QCF31HP-223	0.022 μF	50 V	Ceramic	
C213	QCS31HJ-331	330 pF	50 V	Ceramic	
C214	QET61HM-105	1 μF	50 V	Electrolytic	
C215	QCF31HP-223	0.022 μF	50 V	Ceramic	
C216	QCF31HP-223	0.022 μF	50 V	Ceramic	
C302	QFP31HJ-391	390 pF	50 V	Polypropylene	
C303	QCF31HP-223	0.022 μF	50 V	Ceramic	
C304	QET61AM-107	100 μF	10 V	Electrolytic	
C305	QET61HM-475	4.7 μF	50 V	Electrolytic	
C306	QCF31HP-103	0.01 μF	50 V	Ceramic	
C308	QCS31HJ-100	10 pF	50 V	Ceramic	
C352	QCT25CH-220	22pF	50 V	Ceramic	C
C352	QCT25CH-220	22pF	50 V	Ceramic	DBS
C352	QCT25CH-220	22pF	50 V	Ceramic	E
C353	QCT25CH-151	150 pF	50 V	Ceramic	C
C353	QCT25CH-151	150 pF	50 V	Ceramic	DBS
C353	QCT25CH-151	150 pF	50 V	Ceramic	E
C354	QCT25UJ-270	27 pF	50 V	Ceramic	C
C354	QCT25UJ-270	27 pF	50 V	Ceramic	DBS
C354	QCT25UJ-270	27 pF	50 V	Ceramic	E
C401	QET61EM-106	10 μF	25 V	Electrolytic	
C402	QET61CM-107	100 μF	16 V	Electrolytic	
C403	QCS31HJ-221	220 pF	50 V	Ceramic	E
C403	QCS31HJ-331	330 pF	50 V	Ceramic	C
C403	QCS31HJ-331	330 pF	50 V	Ceramic	DBS
C403	QCS31HJ-331	330 pF	50 V	Ceramic	F
C403	QCS31HJ-331	330 pF	50 V	Ceramic	G
C403	QCS31HJ-471	470 pF	50 V	Ceramic	A
C403	QCS31HJ-471	470 pF	50 V	Ceramic	B
C404	QCS31HJ-221	220 pF	50 V	Ceramic	E
C404	QCS31HJ-331	330 pF	50 V	Ceramic	C
C404	QCS31HJ-331	330 pF	50 V	Ceramic	DBS

Capacitors

Item	Part Number	Description			Areas
C404	QCS31HJ-331	330 pF	50 V	Ceramic	F
C404	QCS31HJ-331	330 pF	50 V	Ceramic	G
C404	QCS31HJ-471	470 pF	50 V	Ceramic	A
C404	QCS31HJ-471	470 pF	50 V	Ceramic	B
C405	QET61EM-106	10 μF	25 V	Electrolytic	
C406	QET61EM-106	10 μF	25 V	Electrolytic	
C407	QET61HM-105	1 μF	50 V	Electrolytic	
C408	QET61HM-474	0.47 μF	50 V	Electrolytic	
C409	QET61EM-106	10 μF	25 V	Electrolytic	
C410	QET61HM-105	1 μF	50 V	Electrolytic	
C411	QFN31HJ-473	0.047 μF	50 V	Mylar	
C451	QET61EM-106	10 μF	25 V	Electrolytic	
C453	QCF31HP-102	1000 pF	50 V	Ceramic	
C454	QCF31HP-102	1000 pF	50 V	Ceramic	
C501	QET61EM-106	10 μF	25 V	Electrolytic	
C502	QET61HM-105	1 μF	50 V	Electrolytic	
C503	QET61HM-475	4.7 μF	50 V	Electrolytic	
C801	QET51VM-108	1000 μF	25 V	Electrolytic	
C802	QET61EM-106	10 μF	25 V	Electrolytic	
C803	QET61CM-476	47 μF	16 V	Electrolytic	
C804	QCF31HP-103	0.01 μF	50 V	Ceramic	
C805	QCF31HP-103	0.01 μF	50 V	Ceramic	
C806	QCF31HP-103	0.01 μF	50 V	Ceramic	
C807	QCF31HP-103	0.01 μF	50 V	Ceramic	
C808	QCF31HP-103	0.01 μF	50 V	Ceramic	
C809	QET61CM-107	100 μF	16 V	Electrolytic	
TC101	ENZ1003-003			Trimmer	
TC102	ENZ1003-003			Trimmer	
TC103	ENZ1003-003			Trimmer	
TC301	ENZ1003-006			Trimmer	C
TC302	ENZ1003-006			Trimmer	
TC351	ENZ1003-006			Trimmer	
TC351	ENZ1003-006			Trimmer	
TC351	ENZ1003-006			Trimmer	
TC352	ENZ1003-006			Trimmer	DBS
TC352	ENZ1003-006			Trimmer	E
TC352	ENZ1003-006			Trimmer	C
TC352	ENZ1003-006			Trimmer	DBS
TC352	ENZ1003-006			Trimmer	E
	ENZ1005-004			Variable	

Resistors

Item	Part Number	Description			Areas
R101	QRD141J-470S	47 Ω	1/4 W	Carbon	E
R101	QRD141J-330S	33 Ω	1/4 W	Carbon	A
R101	QRD141J-330S	33 Ω	1/4 W	Carbon	B
R101	QRD141J-330S	33 Ω	1/4 W	Carbon	C
R101	QRD141J-330S	33 Ω	1/4 W	Carbon	DBS
R101	QRD141J-330S	33 Ω	1/4 W	Carbon	F
R101	QRD141J-330S	33 Ω	1/4 W	Carbon	
R102	QRD141J-221S	220 Ω	1/4 W	Carbon	
R103	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	
R104	QRD141J-223S	22 kΩ	1/4 W	Carbon	
R105	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R106	QRD141J-561S	560 Ω	1/4 W	Carbon	
R107	QRD141J-561S	560 Ω	1/4 W	Carbon	
R108	QRD141J-103S	10 kΩ	1/4 W	Carbon	
R109	QRD141J-682S	6.8 kΩ	1/4 W	Carbon	
R110	QRD141J-222S	2.2 kΩ	1/4 W	Carbon	
R111	QRD141J-104S	100 kΩ	1/4 W	Carbon	
R112	QRD141J-104S	100 kΩ	1/4 W	Carbon	
R113	QRD141J-333S	33kΩ	1/4 W	Carbon	
R113	QRD141J-333S	33kΩ	1/4 W	Carbon	
R113	QRD141J-333S	33kΩ	1/4 W	Carbon	A
					B
					C



# Resistors

Item	Part Number	Description			Areas
R113	QRD141J-333S	33kΩ	1/4 W	Carbon	DBS
R113	QRD141J-333S	33kΩ	1/4 W	Carbon	E
R113	QRD141J-333S	33kΩ	1/4 W	Carbon	F
R113	QRD141J-272S	33 kΩ	1/4 W	Carbon	G
R202	QRD141J-561S	560 Ω	1/4 W	Carbon	
R204	QRD141J-272S	2.7 kΩ	1/4 W	Carbon	
R205	QRD141J-681S	680 Ω	1/4 W	Carbon	
R206	QRD141J-561S	560 Ω	1/4 W	Carbon	
R208	QRD141J-103S	10 kΩ	1/4 W	Carbon	
R210	QRD141J-393S	39 kΩ	1/4 W	Carbon	
R211	QRD141J-681S	680 Ω	1/4 W	Carbon	
R212	QRD141J-561S	560 Ω	1/4 W	Carbon	
R213	QRD141J-104S	100 kΩ	1/4 W	Carbon	
R214	QRD141J-821S	820 Ω	1/4 W	Carbon	
R215	QRD141J-153S	15 kΩ	1/4 W	Carbon	
R216	QRD141J-222S	2.2 kΩ	1/4 W	Carbon	
R217	QRD141J-471S	470 Ω	1/4 W	Carbon	
R218	QRD141J-222S	2.2 kΩ	1/4 W	Carbon	
R301	QRD141J-681S	680 Ω	1/4 W	Carbon	
R302	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R351	QRD141J-102S	1 kΩ	1/4 W	Carbon	C
R351	QRD141J-102S	1 kΩ	1/4 W	Carbon	DBS
R351	QRD141J-102S	1 kΩ	1/4 W	Carbon	E
R403	QRD141J-154S	150 kΩ	1/4 W	Carbon	A
R403	QRD141J-154S	150 kΩ	1/4 W	Carbon	B
R403	QRD141J-154S	150 kΩ	1/4 W	Carbon	C
R403	QRD141J-154S	150 kΩ	1/4 W	Carbon	DBS
R403	QRD141J-154S	150 kΩ	1/4 W	Carbon	F
R403	QRD141J-154S	150 kΩ	1/4 W	Carbon	G
R403	QRD141J-224S	220 kΩ	1/4 W	Carbon	E
R404	QRD141J-154S	150 kΩ	1/4 W	Carbon	A
R404	QRD141J-154S	150 kΩ	1/4 W	Carbon	B
R404	QRD141J-154S	150 kΩ	1/4 W	Carbon	C
R404	QRD141J-154S	150 kΩ	1/4 W	Carbon	DBS
R404	QRD141J-154S	150 kΩ	1/4 W	Carbon	F
R404	QRD141J-154S	150 kΩ	1/4 W	Carbon	G
R404	QRD141J-224S	220 kΩ	1/4 W	Carbon	E
R409	QRD141J-332S	3.3 kΩ	1/4 W	Carbon	
R410	QRD141J-332S	3.3 kΩ	1/4 W	Carbon	
R411	QRD141J-333S	33 kΩ	1/4 W	Carbon	C
R411	QRD141J-333S	33 kΩ	1/4 W	Carbon	DBS
R411	QRD141J-333S	33 kΩ	1/4 W	Carbon	E
R411	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	A
R411	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	B
R411	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	F
R411	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	G
R412	QRD141J-333S	33 kΩ	1/4 W	Carbon	C
R412	QRD141J-333S	33 kΩ	1/4 W	Carbon	DBS
R412	QRD141J-333S	33 kΩ	1/4 W	Carbon	E
R412	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	A
R412	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	B
R412	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	F
R412	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	G
R413	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R414	QRD141J-563S	56 kΩ	1/4 W	Carbon	
R415	QRD141J-103S	10 kΩ	1/4 W	Carbon	
R416	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R417	QRD141J-151S	150Ω	1/4W	Carbon	
R451	QRD141J-153S	15 kΩ	1/4 W	Carbon	E
R501	QRD141J-223S	22 kΩ	1/4 W	Carbon	
R502	QRD141J-223S	22 kΩ	1/4 W	Carbon	
R503	QRD141J-104S	100 kΩ	1/4 W	Carbon	
R504	QRD141J-104S	100 kΩ	1/4 W	Carbon	
R505	QRD141J-103S	10 kΩ	1/4 W	Carbon	
R506	QRD141J-273S	27 kΩ	1/4 W	Carbon	

# Resistors

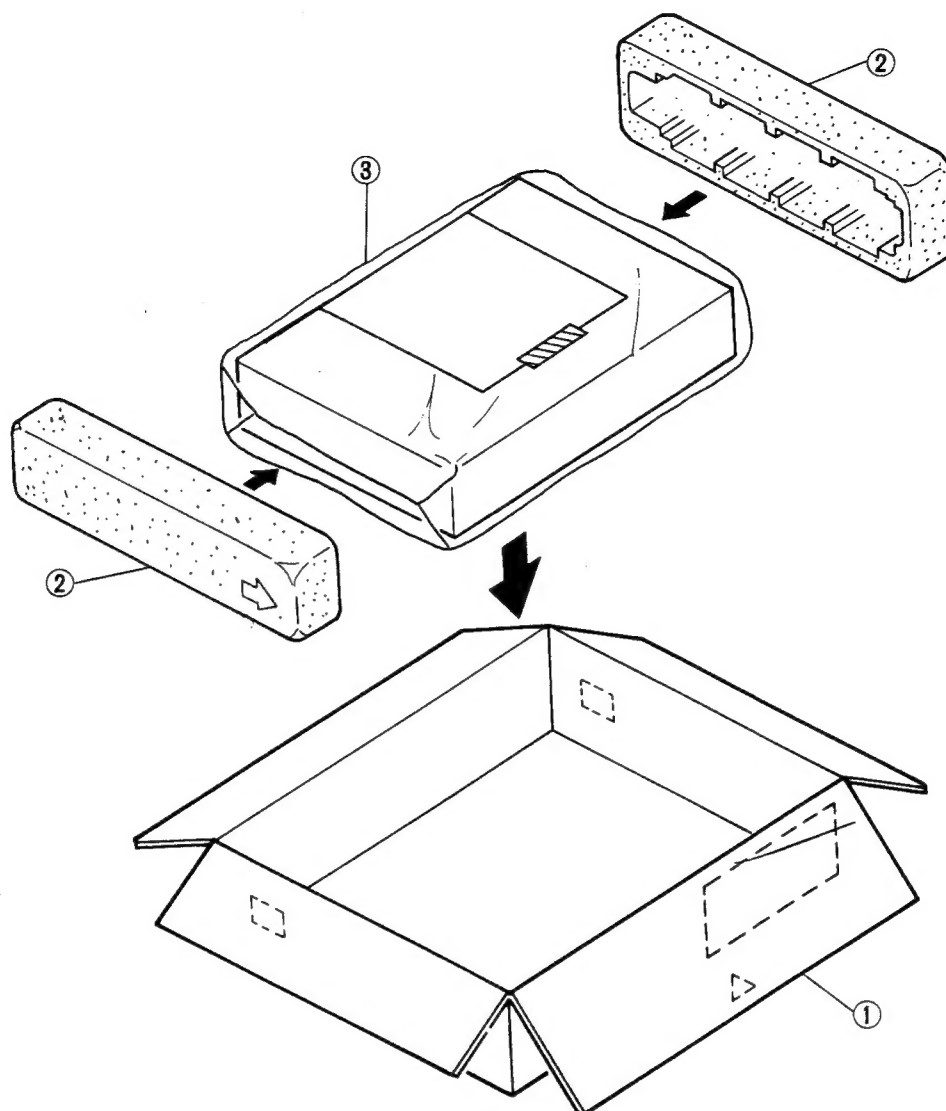
Item	Part Number	Description			Areas
R507	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R508	QRD141J-123S	12 kΩ	1/4 W	Carbon	
R509	QRD141J-123S	12 kΩ	1/4 W	Carbon	
R510	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R511	QRD141J-473S	47 kΩ	1/4 W	Carbon	
R512	QRD141J-223S	22 kΩ	1/4 W	Carbon	
R513	QRD141J-223S	22 kΩ	1/4 W	Carbon	
R514	QRD141J-223S	22 kΩ	1/4 W	Carbon	
R515	QRD141J-222S	2.2 kΩ	1/4 W	Carbon	
R801	QRD141J-472S	4.7 kΩ	1/4 W	Carbon	
R802	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R803	QRD141J-102S	1 kΩ	1/4 W	Carbon	
R804	QRD141J-103S	10 kΩ	1/4 W	Carbon	
R805	QRD141J-561S	560 Ω	1/4 W	Carbon	
R901	QRC128K-275EM	2.7 MΩ	1/2 W	Composition	A

# Others

Item	Part Number	Description	Areas
	E11134-002	Circuit Board	A
	E11134-002	Circuit Board	B
	E11134-002	Circuit Board	C
	E11134-002	Circuit Board	E
	E11134-002	Circuit Board	F
	E11134-002	Circuit Board	G
	E11134-002BS	Circuit Board	DBS
	E71008-001	Shield Case	
	EMB01YV-201A	Antenna Terminal	F
	E03572-016	Antenna Terminal	A
	E03572-016	Antenna Terminal	B
	E03572-016	Antenna Terminal	C
	E03572-016	Antenna Terminal	DBS
	E03572-016	Antenna Terminal	E
	E03572-016	Antenna Terminal	G
	E67764-003	Terminal	
	E65508-002	Tab	
	E65508-002	Tab	
	EMG7331-001	Fuse Clip	B
	EMG7331-001	Fuse Clip	C
	EMG7331-001	Fuse Clip	DBS
	EMG7331-001	Fuse Clip	E
	EMG7331-001	Fuse Clip	F
	EMG7331-001	Fuse Clip	G
	E67642-002	Shield Plate	
S101	E70859-001	Earth Plate	
S101	QST42A1-E01	Push Switch	A
S101	QST42A1-E01	Push Switch	B
S101	QST42A1-E01	Push Switch	F
S101	QST42A1-E01	Push Switch	G
S101	QST43A1-E03	Push Switch	C
S101	QST43A1-E03	Push Switch	DBS
S101	QST43A1-E03	Push Switch	E
S801	QST4101-E5	Push Switch	△
PT001	ETP1000-35EA	Power Transformer	△ C
PT001	ETP1000-35EA	Power Transformer	△ E
PT001	ETP1000-35EA	Power Transformer	△ F
PT001	ETP1000-35EABS	Power Transformer	△ DBS
PT001	ETP1000-35JA	Power Transformer	△ A
PT001	ETP1000-35LA	Power Transformer	△ B
PT001	ETP1000-35LA	Power Transformer	△ G
S901	QSS0045-002	Slide Switch	B
S901	QSS0045-002	Slide Switch	G

△ Safety Parts

## 4. Packing Materials and Part Numbers



No.	Part Number	Part Name	Description	Areas
1	PK-TGX1E PK-TGX1BE PK-TGX1LE PK-TGX1LBE	Packing Case Packing Case Packing Case Packing Case		J, C, P, PG, A UA, U J, C, P, PG, A, UA, U LE, LES, LBS, LG LE, LES, LBS, LG
2	NZ-TGX1E	Fillers	(E24938-001) (E24938-002)	
3	E68142-011 E68142-011B	Protect Sheet Protect Sheet		J, C, P, PG, A, LE, LEB, LG, UA, U LBS

The Marks for Designated Area	
J . . . . U.S.A.	LG . . . West Germany
C . . . . Canada	A . . . . Australia
P, PG . . U.S. Military Market	LBS . . U.K.
LE . . . Europe	UA . . . Rep. of South Africa
LES . . Spain	U . . . . Other Countries

## 5. Accessories List

Part Number	Part Name	Description	Areas
E30580-1121A E30580-1121ABS BT20048B BT20025H BT20029C	Instruction Book Instruction Book Warranty Card Warranty Card Warranty Card		J, C, P, PG, A, LE, LES, LG, UA, U LBS J, P, PG C A
BT20060 BT20064 BT20066 BT20071A BT20054-005A	Warranty Card Warranty Card ECC Agency SVC Center FTZ Information Card		LBS LG LBS, LG C LG
BT20046B BT20044D E03614-004 E67007-001 E04056	Service Information Card Instruction Sheet Built-in Antenna Wire Antenna Ass'y Siemens Plug		J, P, PG J J, C, P, PG, A, LE, LES, LBS, UA, U LG PG, UA, U
E35497-022 E35497-021 E41202-2 E41202-2B E66416-003	Caution Sheet (220 V) Caution Sheet (110 V) Envelope (for Instruction Book) Envelope (for Instruction Book) Envelope (for Warranty Card)		U, PG, UA P J, C, P, PG, A, LE, LES, LG, UA, U LBS J
EQB4001-009	Bar Antenna Coil		

The Marks by Designated Area	
J . . . . U.S.A.	LG . . . West Germany
C . . . . Canada	A . . . . Australia
P, PG . U.S. Military Market	LBS . . U.K.
LE . . . Europe	UA . . Rep. of South Africa
LES . . Spain	U . . . . Other Countries